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SPECIALIST FOR ESTERIFICATION

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OhSung

OHSUNG Redefine Growth

OhSung Chem. is a company specialized in production of cation surfactant as the key ingredient for homecare fabric softener, fatty acid ester for industrial field and ester type emollient for cosmetic field.

CONTENTS

OHSUNG HICOS SERIES

General
Silicone Replacement
Natural

HICOS SERIES

The highest purified ester products for cosmetics.

Excellent compatibility with various oil soluble ingredients such as vegetable oil, sunscreens, natural and/or synthetic waxes

Cosmetics emollient

Eco-friend

What is emollient?

Emollients are substances with fat affinity that softens skin or hair as well as produces gloss, including mineral oil, vegetable oil, ester oil, silicone oil, etc.
Emollients can be used as a solvent for UV filter in cosmetics formulation or as a dispersion medium for oil, inorganic pigment and colorant.

Skin Protection

Reasons for using emollient in cosmetics

Emollient helps maintenance of moisture by shutting off evaporation of water from the skin surface(epidermis). Also, it is frequently used in cosmetics formulation since it has the functions of softening skin and increasing gloss of skin surface.

Moisturizing

Advantages of ester type emollient

Ester-type emollient has a structure similar to that of oil present in human body with eco-friend characteristics. And it has longer effective expiration period of the substance itself since it is not easily oxidized comparing with other oils, and it brings more competitive price.

Gloss

Application

Emollient can be used many cosmetics formulations such as skin care including lotion, cream, cleanser, etc. and make-up products including sun care, foundation, lipstick, etc. In particular, skin management by use of the emollient is essential for healthy skin to the people with skin troubles such as eczema or psoriasis.

GENERAL ESTER

Sensory classification

Group1

For oily skin care, sun care, cleansing care, make-up product

Esters in Group Ⅰ offer very light feeling and excellent spreadability, and also have excellent dissolution of UV blocker and dispersibility of pigments.

Relevant products

Hicos CEH, IOP, IOS, ININ, IOIN, PGDC, BGDC, CC, ODM

Group2

For normal skin care, combination skin care, make-up product

Esters in Group Ⅱ have less spreadability than Group Ⅰ, however, they still have light feeling, excellent softening effects and protection effects of skin.

Relevant products

Hicos AB, CP, GTC, GTE, NDC, NDEH, ODS, DOS, ODIS

Group3

For all skin care, make-up product

Esters in GroupⅢ have less spreadability and little heavier feeling with slightly higher viscosity than Group Ⅱ. They can offer more excellent softening effects and protection effects of skin.

Relevant products

Hicos GTIS, GDIS, PGML, PEH, ISP, ISIS, TDIN, TDL

Group4

For dry skin care, eye care, make-up product

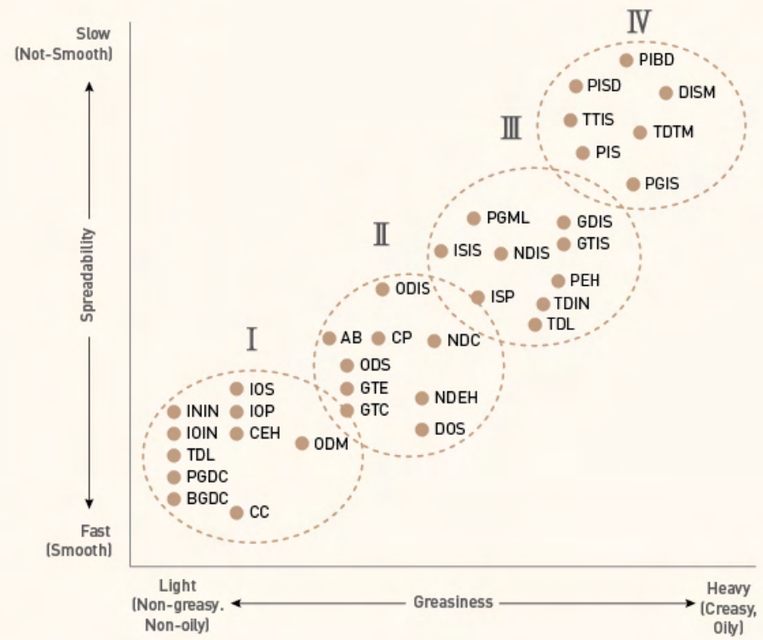
Esters in GroupⅣ offer slightly oily and heavy feeling with high viscosity, and less spreadability comparing with GroupⅢ. And also they have excellent softening effects, protection effects of skin and dispersibility of pigments.

Relevant products

Hicos PIS, PGIS, DISM, TDTM, TTIS

Sensory Map

Group1	Group2	Group3	Group4
For oily skin care, sun care, cleansing care, make-up product	For normal skin care, combination skin care, make-up product	For all skin care, make-up product	For dry skin care, eye care, make-up product



GENERAL ESTER

List

Product	INCI Name	Item Specifications					
		Appearanve	Color	A.V	S.V	I.V	S.G
CEH	Cetyl Ethylhexanoate	L. Yellow Liquid	20 max	1 max	150±10	1 max	0.845±0.01
CP	Cetyl Palmitate	Flake	50 max	1 max	120±10	1 max	0.850±0.01
PGIS	Polyglyceryl-2 Triisostearate	L. Yellow Liquid	70 max	3 max	170±10	5 max	0.925±0.01
DISM	Diisostearyl Malate	L. Yellow Liquid	60 max	1 max	75-90	2 max	0.910-0.915
DOS	Diethylhexyl Sebacate	L. Yellow Liquid	60 max	0.5 max	260±5	1 max	0.915±0.01
GDIS	Glyceryl Diisostearate	L. Yellow Liquid	70 max	3 max	175±10	5 max	0.920±0.01
GTC	Caprylic/Capric Triglyceride	L. Yellow Liquid	25 max	0.1 max	340±10	1 max	0.950±0.01
GTE	Triethylhexanoin	L. Yellow Liquid	40 max	1 max	350±10	1 max	0.960±0.01
GTIS	Triisostearin	L. Yellow Liquid	150 max	2 max	185±10	4 max	0.905±0.01
ININ	Isononyl Isononanoate	L. Yellow Liquid	20 max	1 max	190±10	1 max	0.857±0.01
IOIN	Ethylhexyl Isononanoate	L. Yellow Liquid	25 max	1 max	205±10	1 max	0.855±0.01
IOP	Ethylhexyl Isononanoate	L. Yellow Liquid	25 max	0.5 max	150±10	1 max	0.855±0.01
IOS	Ethylhexyl Stearate	L. Yellow Liquid	50 max	0.5 max	147±10	1 max	0.856±0.01
ISP	Isostearyl Palmitate	L. Yellow Liquid	50 max	3 max	110±10	2 max	0.856±0.01
ISIS	Isostearyl Isostearate	L. Yellow Liquid	70 max	2 max	105±10	1 max	0.860±0.01
NDC	Neopentyl Glycol Dicaprate	L. Yellow Liquid	50 max	1 max	270±10	1 max	0.905±0.01
NDEH	Neopentyl Glycol Diethylhexanoate	L. Yellow Liquid	50 max	1 max	310±10	1 max	0.920±0.01
NDIS	Neopentyl Glycol Diisostearate	L. Yellow Liquid	70 max	3 max	176±10	2 max	0.984±0.01
ODIS	Octyldodecyl Isostearate	L. Yellow Liquid	70 max	3 max	100±10	2 max	0.856±0.01
ODM	Octyldodecyl Myristate	L. Yellow Liquid	80 max	1 max	105±10	2 max	0.855±0.01
ODS	Octyldodecyl Stearate	L. Yellow Liquid	30 max	3 max	100±10	2 max	0.856±0.01
PEH	Pentaerythrityl Tetraethylhexanoate	L. Yellow Liquid	50 max	1 max	350±10	1 max	0.950±0.01
PIS	Pentaerythrityl Tetraisostearate	L. Yellow Liquid	70 max	1 max	187.5±7.5	3 max	0.910±0.01
TDIN	Isotridecyl Isononanoate	L. Yellow Liquid	50 max	1 max	165±10.5	0.5 max	0.860±0.01
TDL	Isotridecyl Laurate	L. Yellow Liquid	50 max	1 max	147±10	1 max	0.860±0.01
TDTM	Tridecyl Trimellitate	L. Yellow Liquid	100 max	1 max	224±10	1 max	0.960±0.01
TTIS	Trimethylolpropane Triisostearate	L. Yellow Liquid	70 max	2 max	175±10	7 max	0.920±0.01
PGDC	Propylene Glycol Dicaprylate/ Dicaprate	L. Yellow Liquid	50 max	1 max	325±10	1 max	0.920±0.01
BGDC	Butylene Glycol Dicaprylate/ Dicaprate	L. Yellow Liquid	50 max	0.5 max	305±10	1 max	0.920±0.01
AB	C12-15 Alkyl Benzoate	L. Yellow Liquid	50 max	0.5 max	175±10	1 max	0.925±0.01
DCC	Dicaprylyl Carbonate	L. Yellow Liquid	30 max	1 max	-	1 max	0.890±0.01
PGML	Propylene Glycol Monolaurate	L. Yellow Liquid	70 max	4 max	230±10	1 max	0.920±0.01
PIBD	Phytosteryl*Isostearyl*Cetyl*Stearyl* Behenyl Dimer Dilinoleate	Pale Yellow Paste	8(G) max	10 max	85±15	-	-
PISD	Phytosteryl*Isostearyl*Dimer Dilinoleate	Pale Yellow Paste	4(G) max	2 max	95±15	-	-

Application

product	Skin Care				Hair Care		Sun care	Color Cosmetic		
	Creams	Lotions	Cleansers	Lighteners	Conditioners	Styling		Lips	Powder	Eyes
CEH	●	●	●	●	●	●	●	●	●	●
CP	●			●		●	●			●
PGIS					●			●	●	
DISM	●	●				●	●	●	●	●
DOS						●	●			●
GDIS	●							●		
GTC	●	●	●	●			●	●	●	●
GTE		●		●				●		
GTIS	●				●			●		
ININ	●	●	●				●	●	●	●
IOIN	●	●			●		●			
IOP	●	●		●	●			●	●	
IOS	●	●					●	●	●	●
ISP	●	●						●		
ISIS	●	●		●	●		●	●	●	●
NDC	●	●	●				●	●		
NDEH	●	●	●	●			●		●	●
NDIS					●					
ODIS					●	●		●	●	●
ODM	●		●	●	●				●	
ODS		●						●		
PEH	●	●	●			●				
PIS	●		●			●	●	●	●	●
TDIN	●	●	●					●		
TDL	●	●			●					
TDTM	●				●			●	●	●
TTIS	●	●		●	●	●	●	●	●	●
PGDC	●	●	●	●	●		●	●	●	●
BGDC	●	●	●	●	●	●	●	●	●	●
AB	●	●	●	●	●		●			
DCC			●				●			
PGML	●	●	●		●	●	●			
PIBD	●	●		●	●	●	●	●		
PISD	●	●			●	●	●	●		

Additional information ● > 30% dosage, ● > 10~20% dosage, ● < 10% dosage

SRE (SILICONE REPLACEMENT ESTER)

What is silicone replacement ester emollient

Silicone replacement ester emollient is ester products for alternative substitution of silicone emollient, which has used as solvent, moisturizer or softener in cosmetics.

Reasons for using silicone replacement ester emollient

Recently, cyclopentasiloxane (D5) has been determined by EU as a pernicious ingredients designated as restricted raw material for using since January 10, 2018. Therefore, alternative substitution of cyclopentasiloxane won't be an option in future.

Advantages of silicone replacement ester emollient

Silicone replacement ester more eco-friend and safer product with lower skin irritation and toxicity with higher biodegradability comparing with general silicone oil.

Application

Silicone replacement ester emollient can be extensively used as a base ingredient for many cosmetics formulations such as lotion, cream, cleanser, sun care, make-up, etc.

List

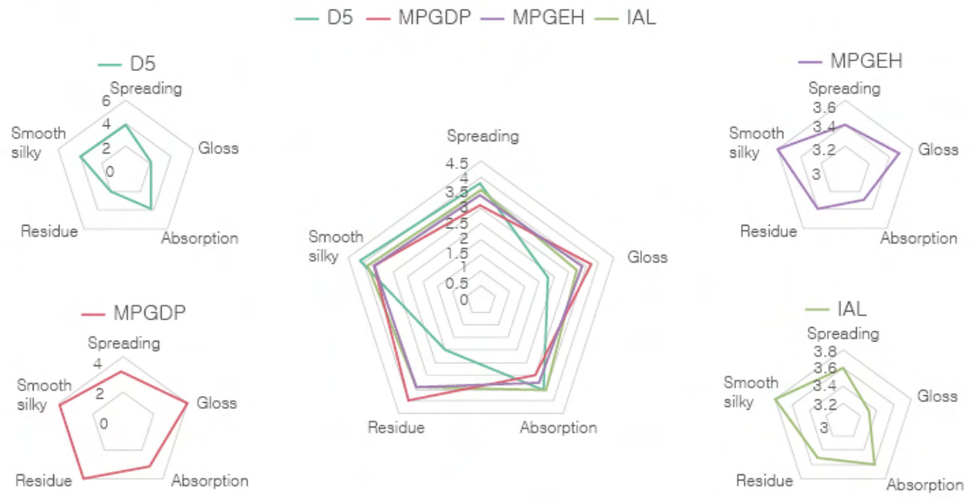
Product	INCI Name	Appearance	Color	A.V	Hydroxyl equivalent	Refractive index
MPGEH	Propylene Glycol Diethylhexanoate	L. Yellow Liquid	50 max	0.5 max	10 max	1.434±0.02
MPGDP	Propylene Glycol Dipelargonate	L. Yellow Liquid	60 max	0.5 max	10 max	1.439±0.02
IAL	Isoamyl Laurate	L. Yellow Liquid	50 max	0.5 max	10 max	1.433±0.02
GTH	Triheptanoin	L. Yellow Liquid	50 max	0.5 max	10 max	1.443±0.02
ISN	Isostearyl Neopentanoate	L. Yellow Liquid	50 max	0.5 max	10 max	1.444±0.02
NDH	Neopentyl Glycol Diheptanoate	L. Yellow Liquid	60 max	0.5 max	10 max	1.437±0.02
NDCR	Neopentyl Glycol Dicaprate	L. Yellow Liquid	60 max	0.5 max	10 max	1.440±0.02
NDCC	Neopentyl Glycol Dicaprylate/dicaprate	L. Yellow Liquid	60 max	0.5 max	10 max	1.442±0.02
MPGDC	Propylene glycol dicaprylate/dicaprate	L. Yellow Liquid	60 max	0.5 max	10 max	1.439±0.02
DPGEH	Dipropylene Glycol Diethylhexanoate	L. Yellow Liquid	50 max	0.5 max	20 max	1.436±0.02

Application

product	Skin Care				Hair Care		Sun care	Color Cosmetic		
	Creams	Lotions	Cleansers	Lighteners	Conditioners	Styling		Lips	Powder	Eyes
MPGEH	●	●	●	●	●	●	●	●	●	●
MPGDP	●	●	●	●	●	●	●	●	●	●
IAL	●	●	●	●	●	●	●	●	●	●
GTH	●	●	●	●	●	●	●	●	●	●
ISN	●	●	●	●	●	●	●	●	●	●
NDH	●	●	●	●	●	●	●	●	●	
NDCR	●	●	●	●	●	●	●	●	●	
NDCC	●	●	●	●	●	●	●	●	●	
MPGDC	●	●	●	●	●	●	●	●	●	
DPGEH	●	●	●	●	●	●	●	●	●	

Additional information ● > 30% dosage, ● > 10~20% dosage, ● < 10% dosage

Sensory Science



NATURAL BASED ESTER

What is natural-based ester emollient?

Generally, natural-based ester emollient includes plant-derived, animal-based, bioactive emollient, and so on.
One natural-based ester emollient type we, OhSung is specialized in is fatty acid and alcohol originating from plant(vegetable) -derived oil among natural-based esters.

Reasons for using nature-based ester emollient

As arising awareness on the risk of synthetic chemical materials and increasing desire for natural derived product in cosmetic field, the world is focusing on natural based emollient as global trend.

EO/PO REPLACEMENT ESTER : POLYGLYCERYL ESTER

Polyglycerol esters are nonionic surfactant which can be used in the cosmetic industry due to their amphiphilic properties. In addition, it has been suggested as an answer to the safety problems of EO/PO. HLB's range is from 2 – 17 in polyglycerol esters of fatty acids. Depending on HLB, polyglycerol esters can act as water-in-oil (W/O) or oil-in-water (O/W) emulsifiers.
The HLB, structure and funtion of polyglycerol esters can be customized by modifying the glycerol chain length, the degree of fatty acid substitution and by using specific fatty acids.
Polyglycerol esters are produced by polymerization of glycerol in the presence of an alkaline catalyst followed by esterification with fatty acids. The fatty acids are from vegetable oils such as corn oil, cottonseed oil, palm oil, peanut oil, sesame oil, sunflower oil, soybean oil, and etc.

POLYGLYCERYL-2 ESTER

Product	INCI Name	Appearance	HLB	A.V	S.V
PG2MOCL	Polyglyceryl-2 Caprylate	Yellow Viscous Liquid	11.3	2 Max.	190±10
PG2SECL	Polyglyceryl-2 Sesquicaprylate	Yellow Viscous Liquid	9.3	2 Max.	225±10
PG2MOCP	Polyglyceryl-2 Caprate	Yellow Liquid	10.3	5 Max.	175±10
PG2MOLA	Polyglyceryl-2 Laurate	Yellow Viscous Liquid	9.5	3 Max.	160±10
PG2MOMA	Polyglyceryl-2 Myristate	Yellow Solid	8.8	3 Max.	150±10
PG2MOPA	Polyglyceryl-2 Palmitate	Yellow Solid	8.2	3 Max.	140±10
PG2MOSA	Polyglyceryl-2 Stearate	Yellow Solid	7.6	3 Max.	130±10
PG2DISA	Polyglyceryl-2 Distearate	Yellow Solid	4.7	3 Max.	160±10
PG2TESA	Polyglyceryl-2 Tetrastearate	Yellow Solid	2.6	3 Max.	180±10
PG2MOIS	Polyglyceryl-2 Isostearate	Yellow Viscous Liquid	7.6	3 Max.	130±10
PG2DIIS	Polyglyceryl-2 Diisostearate	Yellow Viscous Liquid	4.7	3 Max.	160±10
PG2TRIS	Polyglyceryl-2 Triisostearate	Yellow Viscous Liquid	3.4	3 Max.	170±10
PG2TEIS	Polyglyceryl-2 Tetraisostearate	Yellow Viscous Liquid	2.6	3 Max.	180±10
PG2MOOA	Polyglyceryl-2 Oleate	Yellow Viscous Liquid	7.7	3 Max.	130±10
PG2DIOA	Polyglyceryl-2 Dioleate	Yellow Viscous Liquid	4.7	3 Max.	160±10
PG2TROA	Polyglyceryl-2 Trioleate	Yellow Viscous Liquid	3.4	3 Max.	175±10
PG2TEOA	Polyglyceryl-2 Tetraoleate	Yellow Viscous Liquid	2.6	3 Max.	180±10

POLYGLYCERYL-3 ESTER

Product	INCI Name	Appearance	HLB	A.V	S.V
PG3MOCL	Polyglyceryl-3 Caprylate	Yellow Viscous Liquid	12.5	3 Max.	150±10
PG3MOCP	Polyglyceryl-3 Caprate	Yellow Viscous Liquid	11.6	3 Max.	140±10
PG3DICP	Polyglyceryl-3 Dicaprate	Yellow Viscous Liquid	8.2	3 Max.	205±10
PG3MOLA	Polyglyceryl-3 Laurate	Yellow Viscous Liquid	10.9	6 Max.	130±10
PG3MOMA	Polyglyceryl-3 Myristate	Yellow Viscous Liquid	10.2	3 Max.	125±10
PG3MOPA	Polyglyceryl-3 Palmitate	Yellow-brown Solid	9.7	3 Max.	120±10
PG3MOSA	Polyglyceryl-3 Stearate	Yellow-brown Solid	9.2	8 Max.	130±10
PG3DISA	Polyglyceryl-3 Distearate	Yellow-brown Solid	5.9	8 Max.	160±10
PG3MOIS	Polyglyceryl-3 Isostearate	Yellow-brown Viscous Liquid	9.2	8 Max.	110±10
PG3DIIS	Polyglyceryl-3 Diisostearate	Yellow-brown Viscous Liquid	5.9	8 Max.	150±10
PG3TRIS	Polyglyceryl-3 Triisostearate	Yellow-brown Viscous Liquid	4.4	8 Max.	160±10
PG3MOOA	Polyglyceryl-3 Oleate	Yellow-brown Viscous Liquid	9.2	6 Max.	135±10
PG3DIOA	Polyglyceryl-3 Dioleate	Yellow-brown Viscous Liquid	6	6 Max.	150±10

POLYGLYCERYL-4 ESTER

Product	INCI Name	Appearance	HLB	A.V	S.V
PG4MOCP	Polyglyceryl-4 Caprate	Yellow Viscous Liquid	12.9	3 Max.	120±10
PG4MOLA	Polyglyceryl-4 Laurate	Yellow Viscous Liquid	12.2	2 Max.	140±10
PG4DILA	Polyglyceryl-4 Dilaurate	Yellow Viscous Liquid	8.8	3 Max.	165±10
PG4MOSA	Polyglyceryl-4 Stearate	Yellow Solid	10.5	3 Max.	100±10
PG4TRSA	Polyglyceryl-4 Tristearate	Yellow Solid	5.4	3 Max.	150±10
PG4PESA	Polyglyceryl-4 Pentastearate	Yellow Solid	3.6	3 Max.	170±10
PG4MOIS	Polyglyceryl-4 Isostearate	Yellow Viscous Liquid	10.5	3 Max.	100±10
PG4MOOA	Polyglyceryl-4 Oleate	Yellow-brown Viscous Liquid	10.5	4 Max.	145±10
PG4PEOA	Polyglyceryl-4 Pentaoleate	Yellow-brown Viscous Liquid	3.6	4 Max.	170±10

NATURAL BASED ESTER

POLYGLYCERYL-6 ESTER

Product	INCI Name	Appearance	HLB	A.V	S.V
PG6MOCL	Polyglyceryl-6 Caprylate	Yellow-brown Viscous Liquid	15.2	5 Max.	115±10
PG6TRCL	Polyglyceryl-6 Tricaprylate	Yellow-brown Viscous Liquid	10.3	5 Max.	200±10
PG6TECL	Polyglyceryl-6 Tetracaprylate	Yellow-brown Viscous Liquid	8.9	5 Max.	230±10
PG6PECL	Polyglyceryl-6 Pentacaprylate	Yellow-brown Viscous Liquid	7.8	5 Max.	255±10
PG6HPCL	Polyglyceryl-6 Heptacaprylate	Yellow-brown Viscous Liquid	6.3	5 Max.	290±10
PG6OCCL	Polyglyceryl-6 Octacaprylate	Yellow-brown Viscous Liquid	5.7	5 Max.	305±10
PG6MOCP	Polyglyceryl-6 Caprate	Yellow Viscous Liquid	14.6	3 Max.	90±10
PG6DICP	Polyglyceryl-6 Dicaprate	Yellow Viscous Liquid	11.5	3 Max.	145±10
PG6MOLA	Polyglyceryl-6 Laurate	Yellow-brown Viscous Liquid	14	5 Max.	75±10
PG6MOMA	Polyglyceryl-6 Myristate	Yellow Viscous Liquid	13.4	3 Max.	85±10
PG6MOPA	Polyglyceryl-6 Palmitate	Yellow Solid	12.9	3 Max.	80±10
PG6DIPA	Polyglyceryl-6 Dipalmitate	Yellow Solid	9.5	3 Max.	120±10
PG6MOSA	Polyglyceryl-6 Stearate	Yellow Solid	12.4	3 Max.	75±10
PG6DISA	Polyglyceryl-6 Distearate	Yellow Solid	9	3 Max.	110±10
PG6TRSA	Polyglyceryl-6 Tristearate	Yellow Solid	7	3 Max.	130±10
PG6PESA	Polyglyceryl-6 Pentastearate	Yellow Solid	4.9	5 Max.	155±10
PG6HXSA	Polyglyceryl-6 Hexastearate	Yellow Solid	4.3	8 Max.	165±10
PG6OCSA	Polyglyceryl-6 Octastearate	Yellow Solid	3.4	8 Max.	175±10
PG6MOIS	Polyglyceryl-6 Isostearate	Yellow Viscous Liquid	12.4	3 Max.	75±10
PG6DIIS	Polyglyceryl-6 Diisostearate	Yellow Viscous Liquid	9	3 Max.	110±10
PG6MOOA	Polyglyceryl-6 Oleate	Yellow Viscous Liquid	12.4	3 Max.	75±10
PG6DEOA	Polyglyceryl-6 Dioleate	Yellow Viscous Liquid	9	3 Max.	115±10
PG6TEOA	Polyglyceryl-6 Tetraoleate	Yellow Viscous Liquid	5.8	3 Max.	145±10
PG6PEOA	Polyglyceryl-6 Pentaoleate	Yellow Viscous Liquid	4.9	5 Max.	155±10
PG6HXOA	Polyglyceryl-6 Hexaoleate	Yellow Viscous Liquid	4.3	8 Max.	165±10
PG6MOCC	Polyglyceryl-6 Caprylate/Caprate	Yellow Viscous Liquid	15	3 Max.	95±10

POLYGLYCERYL-10 ESTER

Product	INCI Name	Appearance	HLB	A.V	S.V
PG10MOCL	Polyglyceryl-10 Caprylate	Yellow Viscous Liquid	16.8	3 Max.	65±10
PG10DOCL	Polyglyceryl-10 Dodecacaprylate	Yellow Viscous Liquid	6.1	8 Max.	295±10
PG10MOCP	Polyglyceryl-10 Caprate	Yellow Viscous Liquid	16.3	3 Max.	60±10
PG10DOCP	Polyglyceryl-10 Dodecacaprate	Yellow Viscous Liquid	5.4	8 Max.	260±10
PG10MOLA	Polyglyceryl-10 Laurate	Yellow-brown Viscous Liquid	15.8	5 Max.	75±10
PG10DILA	Polyglyceryl-10 Dilaurate	Yellow-brown Viscous Liquid	13.1	5 Max.	100±10
PG10TRLA	Polyglyceryl-10 Trilaurate	Yellow-brown Viscous Liquid	11.2	5 Max.	130±10
PG10TELA	Polyglyceryl-10 Tetralaurate	Yellow-brown Viscous Liquid	9.7	5 Max.	150±10
PG10PELA	Polyglyceryl-10 Pentalaurate	Yellow-brown Viscous Liquid	8.6	5 Max.	170±10
PG10MOMA	Polyglyceryl-10 Myristate	Yellow-brown Liquid/Solid	15.4	5 Max.	55±10
PG10DIMA	Polyglyceryl-10 Dimyristate	Yellow-brown Liquid/Solid	12.5	5 Max.	95±10
PG10MOPA	Polyglyceryl-10 Palmitate	Yellow Solid	14.9	3 Max.	55±10
PG10DIPA	Polyglyceryl-10 Dipalmitate	Yellow Solid	11.9	3 Max.	90±10
PG10MOSA	Polyglyceryl-10 Stearate	Yellow Viscous Liquid/Solid	14.5	3 Max.	55±10
PG10DISA	Polyglyceryl-10 Distearate	Yellow Solid	11.4	3 Max.	85±10
PG10TRSA	Polyglyceryl-10 Tristearate	Yellow Solid	9.4	3 Max.	110±10
PG10PESA	Polyglyceryl-10 Pentastearate	Yellow Solid	7	5 Max.	135±10
PG10HPSA	Polyglyceryl-10 Heptastearate	Yellow Solid	5.5	8 Max.	150±10
PG10DESA	Polyglyceryl-10 Decastearate	Yellow Solid	4.2	8 Max.	165±10
PG10MOIS	Polyglyceryl-10 Isostearate	Yellow Viscous Liquid	14.5	2 Max.	60±10
PG10DIIS	Polyglyceryl-10 Diisostearate	Yellow Viscous Liquid	11.5	3 Max.	85±10
PG10TRIS	Polyglyceryl-10 Triisostearate	Yellow Viscous Liquid	9.4	3 Max.	110±10
PG10PEIS	Polyglyceryl-10 Pentaisostearate	Yellow Viscous Liquid	7	5 Max.	135±10
PG10NOIS	Polyglyceryl-10 Nonaisostearate	Yellow Viscous Liquid	4.6	8 Max.	160±10
PG10DEIS	Polyglyceryl-10 Decaisostearate	Yellow Viscous Liquid	4.2	8 Max.	165±10
PG10MOOA	Polyglyceryl-10 Oleate	Yellow Viscous Liquid	14.6	3 Max.	55±10
PG10DIOA	Polyglyceryl-10 Dioleate	Yellow Viscous Liquid/Solid	11.5	3 Max.	85±10
PG10TROA	Polyglyceryl-10 Trioleate	Yellow Viscous Liquid	9.4	3 Max.	110±10
PG10TEOA	Polyglyceryl-10 Tetraoleate	Yellow Viscous Liquid	8	3 Max.	125±10
PG10EPOA	Polyglyceryl-10 Pentaoleate	Yellow Viscous Liquid	7	5 Max.	135±10
PG10HXOA	Polyglyceryl-10 Hexaoleate	Yellow Viscous Liquid	6.2	5 Max.	145±10
PG10HPOA	Polyglyceryl-10 Heptaoleate	Yellow Viscous Liquid	5.5	8 Max.	150±10
PG10DEOA	Polyglyceryl-10 Decaoleate	Yellow Viscous Liquid	4.2	8 Max.	165±10
PGDOOCC	Polyglyceryl-10 Dodecacaprylate/Caprate	Yellow Viscous Liquid	16.6	8 Max.	60±10

NATURAL BASED ESTER

1. EO/PO REPLACEMENT ESTER : POLYGLYCERYL ESTER

Application

Product	INCI Name	HLB	Oil Phase (O/W type emulsion)
PG2TESA	Polyglyceryl-2 Tetrastearate	2.6	
PG2TEOA	Polyglyceryl-2 Tetraoleate	2.7	
PG2TRIS	Polyglyceryl-2 Triisostearate	3.4	
PG6OCSA	Polyglyceryl-6 Octastearate	3.5	
PG4PESA	Polyglyceryl-4 Pentastearate	3.8	Vegetable Oil
•	•	•	Liquid Paraffin
•	•	•	
•	•	•	Perfume
PG10TROA	Polyglyceryl-10 Trioleate	9.7	
PG6DIPA	Polyglyceryl-6 Dipalmitate	9.8	
PG3MOPA	Polyglyceryl-3 Palmitate	10	
PG10TELA	Polyglyceryl-10 Tetralaurate	10.2	Paraffin Wax
PG2MOCP	Polyglyceryl-2 Caprate	10.3	
PG3MOMA	Polyglyceryl-3 Myristate	10.6	Silicone
PG4MOSA	Polyglyceryl-4 Stearate	10.8	
PG6TRCL	Polyglyceryl-6 Tricaprylate	10.9	Fatty Ester
•	•	•	
•	•	•	Tocopherol
•	•	•	
PG6MOLA	Polyglyceryl-6 Laurate	14.3	Coffee Seed Oil
PG10MOOA	Polyglyceryl-10 Oleate	14.8	Lanoline
PG6MOCP	Polyglyceryl-6 Caprate	14.9	
PG10MOPA	Polyglyceryl-10 Palmitate	15.2	
PG6MOCC	Polyglyceryl-6 Caprylate/Caprate	15.4	
PG10MOMA	Polyglyceryl-10 Myristate	15.6	Fatty Acid
PG6MOCL	Polyglyceryl-6 Caprylate	15.7	
PG10MOLA	Polyglyceryl-10 Laurate	16.1	Fatty Alcohol
PG10MOCP	Polyglyceryl-10 Caprate	16.6	
PGDOOCC	Polyglyceryl-10 Dodecacaprylate/Caprate	16.9	
PG10MOCL	Polyglyceryl-10 Caprylate	17.1	

| GUIDE FORMULA |

Skin Softener

: This skin softener provides moisture balance to skin with fast absorption.

No.	INCI Name(Trade Name/Supplier)	w/w%
1	Ethanol	5.00
2	Fragrance	0.10
3	Polyglyceryl-10 Laurate	1.00
4	Water	88.58
5	Disodium EDTA	0.02
6	Citric Acid	0.02

No.	INCI Name(Trade Name/Supplier)	w/w%
7	Sodium Citrate	0.03
8	Panthenol	0.20
9	1,2-Hexanediol	2.00
10	Butylene Glycol	3.00
11	Sodium Polyacryalate	0.05

Manufacturing Procedure

- A(Alcohol Phase) : Dissolve 1~3 with heating to 40 °C.
- B(Water Phase) : Dissolve 4~10 at RT
- Disperse 11 with vigorously mixing by a Disper Mixer.
- Add phase A to phase B with a disper mixing.

Moisture Lotion

: This lotion provides moisture balance to skin with light skin feel.

No.	INCI Name(Trade Name/Supplier)	w/w%
1	Cetearyl Alcohol	1.00
2	Sorbitan Stearate	0.50
3	Glyceryl Stearate	1.00
4	Beswax	1.00
5	Polyglyceryl-10 Diisostearate (Hicos PG10DIIS)	1.00
6	Pentaerythriyl Tetraisostearate (Hicos PIS)	2.00
7	Cetyl Ethylhexanoate(Hicos CEH)	8.00
8	Caprylic/Capric Triglyceride(Hicos GTC)	3.00
9	Dimethicone(100CS)	0.30

No.	INCI Name(Trade Name/Supplier)	w/w%
10	Water	73.68
11	Disodium EDTA	0.02
12	1,2-Hexanediol	2.00
13	Butylene Glycol	3.00
14	Glycerin	3.00
15	Xanthan Gum	0.05
16	Carbomer	0.15
17	Tromethamine	0.15
18	Fragrance	0.15

Manufacturing Procedure

- A(Oil Phase) : Dissolve 1~9 with heating to 75 °C.
- B(Water Phase) : Dissolve 10~14 at RT and disperse 15, 16 with vigorously mixing by a Disper Mixer, then heat to 75 °C.
- Mix A and B with a Homo Mixer at 75 °C with about 5,000 rpm for 5 minutes.
- Add 17~18 during homogenizing, and then cool down until RT with gentle mixing.

NATURAL BASED ESTER

1. EO/PO REPLACEMENT ESTER : POLYGLYCERYL ESTER

| GUIDE FORMULA |

Moisture Cream

: This cream provides good protective film with soft skin feel.

No.	INCI Name(Trade Name/Supplier)	w/w%
1	Cetearyl Alcohol	5.00
2	Sorbitan Stearate	1.00
3	Glyceryl Stearate	2.00
4	Beeswax	1.00
5	Polyglyceryl-10 Diisostearate(Hicos PG10DIIS)	1.00
6	Cetyl Palmitate(Hicos CP)	2.00
7	Cetyl Ethylhexanoate(Hicos CEH)	10.00
8	Caprylic/Capric Triglyceride Hicos GTC)	5.00
9	Dimethicone(100CS)	0.30

No.	INCI Name(Trade Name/Supplier)	w/w%
10	Water	62.23
11	Disodium EDTA	0.02
12	1,2-Hexanediol	2.00
13	Dipropylene Glycol	3.00
14	Glycerin	5.00
15	Xanthan Gum	0.10
16	Ammonium Acryloyldimethyltaurate/ VP Copolymer	0.20
17	Fragrance	0.15

Manufacturing Procedure

- A(Oil Phase) : Dissolve 1~9 with heating to 75 ℃.
- B(Water Phase) : Dissolve 10~14 at RT and disperse 15, 16 with vigorously mixing by a Disper Mixer, then heat to 75 ℃.
- Mix A and B with a Homo Mixer at 75 ℃ with about 5,000 rpm for 5 minutes.
- Add 17 during homogenizing, and then cool down until RT with gentle mixing.

2. OTHERS

List

Product	INCI Name	Appearance	Color	Color	A.V
GTC	Caprylic/Capric Triglyceride	L. Yellow Liquid	25 max	-	0.1 max
GTM	Caprylic/Capric/Myristic/Stearic Triglyceride	L. Yellow Liquid	25 max	-	0.5 max
PGDS	Propanediol Diisostearate	L. Yellow Liquid	50 max	-	1 max
PGDC	Propylene Glycol Dicaprylate/Dicaprate	L. Yellow Liquid	50 max	-	1 max
ODM	Octyldodecyl Myristate	L. Yellow Liquid	30 max	-	1 max
DISM	Diisostearyl Malate	L. Yellow Liquid	60 max	-	2 max
PIS	Pentaerythrityl Tetraisostearate	L. Yellow Liquid	70 max	-	1 max
GTIS	Triisostearin	L. Yellow Liquid	150 max	-	2 max

OhSung Specialist for Esterification

COMPANY HISTORY

2020	Oct.	started regular operation in 2nd factory
2014	Jun.	1 Patent application and Development of high performance cationic surfactant
2010	Nov.	Winning President's award from fine industry technical conference
2018	Dec.	Certified ISO 9001:2015
		Winning "Tower of export"
2007	Sep.	1 Patent application of cationic surfactant using natural oil in China
	Jul.	1 patent application for the production of cationic surfactant with improved softness
	Apr.	2 patent application of cationic surfactant using natural oil
	Apr.	Selected material & Components Specialized Enterprises by Korean Ministry of Commerce, Industry and Energy
2005	Feb.	1 patent application of fatty ester
	Jan.	Completed manufacturing facility of fatty acid ester extension
2004	May.	Completed manufacturing facility of cationic surfactant extension
2001	Jun.	Moved plant and Head office to Nam-dong Industrial zone in Incheon
1999	Apr.	Selected as a promising export company by SME Promotion Corporation
1998	Jun.	Certified ISO 9001
1994	Jun.	Started to export synthetic ester to japan
1992	Jan.	Registered as a supplier for military supplies from the Ministry of National Defense
1990	Dec.	Selected and appointed as the Technically Advanced Small and Medium Enterprise by Ministry of Trade, industry and Energy
1988	Nov.	Selected as Military Service Exceptional Year from Ministry of Science and
		Technology and Military Manpower Administration
1987	Dec.	Winning "Bronze Tower order of industrial Service Merit" in technology development.
	Dec.	Completion of company affiliated research institute and building of research institute from the Ministry of Science and Technology
1983	Feb.	Selected and appointed as the promising Small and Medium Enterprise by the Small and Medium Industry Promotion corporation
1982	Jun.	Technically collaborated with NOF(Nippon oils and Fats in Japan)
1976	Jun.	Transform into a corporation under the name of OhSung Chemical Ind. Co., Ltd.
1975	Sep.	Oh sung chemical was initiated